

# **INITIAL DETECTION DEVICE ELPIJI LEAK GAS SENSOR USING MQ-6**

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## **ABSTRACT**

Making an early leak detector gas sensor using MQ-6 aims to prevent fires due to leakage of LPG gas which can result in losses. With this tool one can know if the leak of LPG gas.

The method used to make the LPG leak detector consisted of several stages namely, (1) Identification of needs, (2) Needs analysis, (3) design system, (4) manufacturing, (5) Testing equipment, (6) discussion. This tool comprised several parts, consisting of power supply circuit that generated voltage of 5 Volt and -5 Volt, a series of sensors MQ-6 as LPG gas detector, series comparator for comparison voltage from the sensor and the reference voltage, relay and buzzer driver circuit as an indicator when LPG gas leak.

Initial leak detection equipment used LPG gas sensor MQ-6 has been successfully made to the draft. Based on the testing stage, the sensor MQ-6 did not detect any LPG gas sensor output voltage  $\pm 1$  Volt. This voltage was smaller than the comparator reference voltage, the comparator output voltage was therefore not able to activate the transistor which results in the relay and the buzzer is not yet active. LPG gas detection by the sensor MQ-6 causes the sensor output voltage to  $\pm 3.69$  volts. The output voltage was greater than the comparator reference voltage, because it can enable the comparator output voltage transistor which caused the relay and the buzzer was active. It can be concluded that initial leak detection equipment using liquefied petroleum gas sensor MQ-6 works had achieved the expectation.

**Keywords: Sensor MQ-6, LPG Gas Leakage**